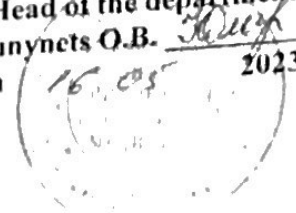


LVIV NATIONAL MEDICAL UNIVERSITY N.A. DANYLO HALYTSKY

Department of Physical Training and Sports Medicine

Approved at the methodical meeting of
the department of Physical training and sports medicine
Head of the department
k.b.s., associate prof. Kunynets O.B. *[Signature]*
Protocol № 18 from 16.05.2023



GUIDELINES

in the discipline

PHYSICAL REHABILITATION AND SPORTS MEDICINE

for 4th year students

training of specialists of the second (master's) level higher education in the field of
knowledge 22 "Health" specialty 222 "Medicine" for independent work in
preparation for practical classes

Topic 11 *"Features of the application of physical rehabilitation in obstetrics and gynecology."*

Methodical guidelines are made in accordance with the requirements of the curriculum in the discipline "Physical Rehabilitation and Sports Medicine", compiled to train specialists of the second (master's) level of higher education in the field of knowledge 22 "Health" specialty 222 "Medicine".

According to the curriculum, the study of physical rehabilitation and sports medicine at the medical faculty is carried out in the 4th year of study. The program is designed for 75 hours, of which 30 classroom hours (practical classes), 8 hours - lectures and 37 hours of independent work of students (IWS).

Methodical recommendations prepared by assistant of the department of physical education and sports medicine Marusiak S.V., Candidate of Medical Sciences, associate professor of the department of physical education and sports medicine Mahlovana G.M.

According to the general wording of the head of the Department of Physical Education and Sports Medicine, Candidate of Biological Sciences, Associate Professor O.B. Kunynets.

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Methodical recommendations were discussed and approved at the methodical meeting of the Department of Physical Education and Sports Medicine

Protocol № 18 from 16 of May 2023

1. Relevance of the topic:

The need for systematic muscle activity for humans is theoretically justified and practically proven. During pregnancy the impact of this factor increases many times. Physical exercises allow to reach an optimum mode of functioning of the basic systems of an organism in the changed conditions. Through the use of exercise you can successfully combat unwanted complications of pregnancy.

2. Class duration: 2 hours.

3. Learning goal:

To know:

- To learn the features of methods of physical rehabilitation for women with normal course or pathology of pregnancy, depending on the trimester, in child birth, the postpartum period, as well as cesarean section.
- To master the features of methods of physical rehabilitation in gynecological practice.

To be able:

- To plan measures of physical rehabilitation and to apply methods of medical physical training for women with a normal course of pregnancy and pathology of pregnancy, depending on a trimester, in childbirth, in the postpartum period, and also at Caesarean section.
- To plan measures of physical rehabilitation and to apply techniques of medical physical training at the most widespread gynecologic diseases.
- To fill in the card of the patient with the corresponding pathology which is treated in an office of medical physical training, department of rehabilitative treatment or the rehabilitation center(form №42/o).

Master practical skills:

- Drawing up a plan of measures of physical rehabilitation, appointment of a mode of motor activity and development of a set of exercises of medical gymnastics for women with a normal course of pregnancy, at Cesarean section, at incorrect positions of an embryo, at the most widespread gynecologic diseases.
- Conducting individual and small group classes in therapeutic gymnastics in obstetrics and gynecology.
- Conducting medical and pedagogical observations in the process of physical exercises.

4. Basic knowledge, skills, abilities necessary for studying the topic (interdisciplinary integration).

Knowledge, skills and abilities acquired earlier in the study of anatomy, human physiology provide the integration of teaching with these disciplines and forms the ability to apply knowledge of physical rehabilitation in professional activities.

5. Student advice.

5.1. Questions for self-control:

1. Clinical and physiological justification for the use of physical rehabilitation.

2. Indications and contraindications to the use of physical rehabilitation during pregnancy.
3. Features of the method of using physical exercises for women with a normal pregnancy depending on the trimester.
4. Features of the method of application of physical exercises in childbirth and after childbirth in the wrong position of the fetus.
5. Features of the method of application of physical exercises in childbirth and after childbirth in the pelvic position of the embryo.
6. Features of the method of application of physical exercises in childbirth and after childbirth at Cesarean section.
7. Indications and contraindications to the appointment of physical rehabilitation in gynecological practice.
8. Features of the method of physical rehabilitation at chronic inflammatory diseases of female genitals.
9. Features of the method of physical rehabilitation at anomalies of position of a uterus.
10. Features of the method of physical rehabilitation in disorders of menstrual function.
11. Features of the method of physical rehabilitation with functional urinary incontinence.

5.1 Topic content

Indications for the use of physical rehabilitation during pregnancy:

During pregnancy, which lasts 280 days, there are three trimesters: from the beginning of pregnancy to 12 weeks; from the 13th to the 27th week and from 28 weeks until childbirth. Exercise is indicated for all women with uncomplicated pregnancy, as well as pregnant women with diseases of the cardiovascular system in the stage of compensation.

Contraindications for the use of physical rehabilitation during pregnancy:

- Not related to pregnancy;
- Related to pregnancy;
- Acute febrile illness;
- Acute kidney disease;
- Circulatory disorders;
- Chronic appendicitis with tendency to exacerbation;
- Sharply expressed toxicosis;
- Preeclampsia, eclampsia;
- Uterine bleeding;
- Systematic onset of pain after exercise.

In obstetric practice is a dangerous fact of the detrimental effects of hypodynamia on pregnancy, childbirth and the postpartum period. Consequence of hypodynamia is the treat of abortion, toxicosis of

the first half of pregnancy, weakness of labor, increased duration of labor, reduction of daily milk secretion by 2 times.

A natural obstacle to such manifestations is the use of exercise from early pregnancy to childbirth and in the postpartum period.

It is mandatory to consult a gynecologist before starting classes. Classes are based on the level of physical fitness of pregnant women. The power indicator (from 36 to 50%) is considered, vital index (from 36,6 to 50,0); abdominal muscle strength (up to 6 lifts and more than 12), functional test 10 squats in 30 seconds (increase from 70 to 60%), heart rate recovery time (from 3,5 min. to 2,5 min), Shtange test (from 18 to more than 35 min.), Genchi test - from 12-14 to more than 22 min).

The main purpose of exercise in childbirth is to stimulate childbirth, prevent early neuromuscular fatigue and reduce pain. Childbirth requires great physical strength from a woman.

Contraindications to therapeutic gymnastics in the first period of childbirth:

- Preeclampsia, eclampsia;
- Placenta previa;
- Premature detachment of the normally located placenta;
- Incorrect positioning and presentation of the fetus, presentation and loss of small parts of the fetus;
- Premature outflow around amniotic fluid;
- Tuberculosis, circulatory failure II-III degrees;
- Increase in blood pressure to 140/90 mm Hg and above;

Exercise after cesarean section

Therapeutic gymnastics is prescribed 2 hours after surgery, static breathing exercises, used static breathing exercises and some tonic exercises.

Contraindications:

- Acute cardiovascular failure;
- Peritonitis;
- Septocopia;
- Throbophlebitis.

Breathing exercises can be alternated with tonic: flexion and extension of the arms in the joints of the fingers, in the carpometacarpal, elbow joint, flexion and extension of the ankle joints alternately by flexion and extension of the knee joints, rotation of the foot outwards and inwards. Breathing exercises are repeated 2-4 times, tonic – 4-6 times. Increased respiration improves peripheral blood circulation and better utilization of oxygen.

From the second day after surgery, prescribe dynamic breathing exercises that increase inhalation and exhalation and exercises for the pelvic floor and abdominal press, performed in a supine position and on the side.

On the third or fourth day, exercise is carried out in the same starting positions with a gradual increase in load due to the repetition of exercises and the inclusion of the new ones, increasing the amplitude of the movement.

From the fifth day the patient performs a number of exercises in a sitting position, from the sixth day – standing. In the future, use all the starting positions. In the last 2-3 days of stay in the maternity hospital the patient performs a set of exercises recommended for classes at home.

Indications for the appointment of means of physical rehabilitation in gynecological practice:

- residual effects of the inflammatory process, general weakness, hypodynamics;
- reduction of the functional state of the cardiorespiratory system;
- weakness of the pelvic floor muscles;
- reduced efficiency.

Contraindications for the appointment of means of physical rehabilitation in gynecological practice:

- pronounced exacerbation of inflammation;
- the phenomenon of pelvic irritation;
- bleeding;
- purulent processes are encapsulated before opening the purulent center and creation of good outflow.

Physical exercises are performed in the form of morning hygienic gymnastics and therapeutic gymnastics in the hospital and after discharge in the clinic at home. The mode of motor activity gradually passes from bed to training, duration of employment from 8-10 to 30 minutes.

Exercise is reduced or canceled on the days of menstruation. Appoint inclinations and turns of a torso, exercises to legs with the big amplitude of movements in different starting positions.

Much attention is paid to walking exercises (lifting the knees, swinging the legs, lunges, walking halfway, squats, cross step). Therapeutic gymnastics is used in combination with medical treatment and physiotherapy. In addition, use therapeutic mud, balneology and magnetic therapy, acupuncture, gynecological and segmental massage.

Pubescence of the genitals and retrodeviation of the uterus due to morphological and functional inferiority of the muscles of the abdominal wall, perineum, decreased tone of the uterine ligaments. Also the cause of abnormalities in the position of the uterus is the cicatricial-adhesive process after inflammatory diseases of the pelvis and abnormalities in the development of the uterus and its ligaments.

Indications for physical rehabilitation:

- pubescence of the walls of the vagina, uterus;
- retroposition, retroversion, retroflexion, anteflexion of the uterus,.

Contraindications for physical rehabilitation:

- exacerbation of the inflammatory process;
- genital tumors;
- complete uterine prolapse (in these cases, therapeutic exercises are indicated after surgery).

Due to the use of a set of exercises you need to strengthen the muscles of the pelvic floor, abdominal wall, back, restore the correct position of the uterus and the physiological function of its ligaments.

Dynamic exercises are preferred in all periods of pregnancy. Much attention is paid to the development of full deep breathing, the ability to relax individual muscle groups. The class includes all starting positions, a significant number of exercises are performed in a lying position: strengthening the muscles of the abdominal press, pelvic floor, exercises to relax the muscles of the abdomen, back, legs, etc. After exercises related to the work of large muscle groups, static breathing exercises with some deepening of exhalation should be performed. In group classes in the conditions of women's consultation, it is advisable to include elements of the game to perform exercises to music.

In the first trimester (weeks 1-16), caution is required in dosing the load and using exercises that increase intra-abdominal pressure.

The purpose of the classes is to teach a woman the skills of full breathing, arbitrary tension and relaxation of the muscles, to provide optimal conditions for the development of the fetus and its connection with the mother's body, to begin the gradual adaptation of the mother's cardiovascular system to physical exertion. In the preparatory part of the class, exercises for the distal and proximal parts of the arms and legs, static and dynamic breathing exercises, and general relaxation exercises are used. The main part of the class includes exercises for the development of abdominal and thoracic breathing, pelvic floor muscles and abdominal press. Exercises for the abdominal press are performed in the starting position lying on the back, on the side, standing in the knee-hand position. Exercises that cause a sharp increase in intra-abdominal pressure (raising straight legs, transition from a lying position to a sitting position, sharp inclinations and bending of the trunk) are not recommended. Exercises for tension and relaxation of the abdominal muscles in the starting position while sitting, lying on the back, on the side are shown. In the final part of the class, general strengthening exercises are used without the inclusion of large muscle groups, breathing exercises of a static and dynamic nature, as well as exercises for muscle relaxation. The duration of the lesson is 15-20 minutes.

In the second trimester (weeks 17-32), the purpose of the class is to: ensure good blood supply and oxygenation of the fetus; strengthening the muscles of the abdominal press and increasing the elasticity of the pelvic floor; promote the preservation and development of flexibility of the spine and pelvic joints; increasing adaptation of the cardiovascular system to physical exertion.

From the 17th to the 23rd-24th week, it is necessary to pay special attention to strengthening the muscles of the abdominal press, pelvic floor, increase the mobility of the joints of the small pelvis, develop the flexibility of the spine and begin to strengthen the long muscles of the back in all starting positions, except for the position lying on the stomach. Continue classes in volitional relaxation of the muscles of the abdominal press, pelvic floor, gluteal and thigh muscles, breathing exercises with a predominant emphasis on the chest. It is worth teaching a pregnant woman to relax the muscles of the pelvic floor when the abdominal muscles are tense.

In the main part of the class, special exercises are introduced for the muscles of the abdominal press, oblique muscles of the abdomen, pelvic diaphragm, exercises that develop the flexibility of the spine, the mobility of the hip joints (lunges, half-squats with one leg resting on the rails of the gymnastic wall (up to the 3rd).

In the final part of the class, exercises with a gradually decreasing load are used: ankle-strengthening, static, dynamic breathing with incomplete amplitude of arm movement, walking,

muscle relaxation exercises. The duration of the lesson is 30-40 minutes.

In the period of the most intensive work of the heart - from the 26th to the 32nd week, it is necessary to slightly reduce the general physical load by reducing the number of repetitions of exercises and introducing static breathing exercises and muscle relaxation exercises.

In the third trimester (33-40th week), the purpose of the classes is to stimulate breathing, blood circulation, fight against stagnation, stimulate intestinal activity, increase the elasticity of the pelvic floor, maintain the tone of the muscles of the abdominal wall, increase the mobility of the sacroiliac joint, hip joints, spine, bringing physical exercises to automaticity while maintaining rhythmic deep breathing, consolidation of effort distribution skills in future births.

In the preparatory part of the class, exercises are carried out that strengthen peripheral blood circulation in the upper and lower limbs, static breathing exercises, dynamic breathing exercises with movement of the arms and partially the body, exercises in the relaxation of certain muscle groups. In the main part, exercises related to the load of the pelvic floor, breathing with a tense abdominal press, deep chest breathing, exercises to increase the mobility of the sacroiliac joints, hip joints and spine are used as well as exercises corresponding to the first period of labor 2 weeks before delivery. The final part is breathing static exercises, general strengthening exercises, exercises for arms and legs, exercises for muscle relaxation. The duration of the lesson is 20-35 minutes.

In the third trimester, it is necessary to complete the psycho-prophylactic preparation of the pregnant woman before childbirth.

5.2 Materials for self-control

1) Questions for self-control:

1. Describe the features of the method of using exercise for women with a normal pregnancy in the first trimester.
2. Describe the features of the method of using exercise for women with a normal pregnancy in the second trimester. List a set of therapeutic procedures that can be used in this case.
3. Describe the features of the method of using exercise for women with a normal pregnancy in the third trimester. List a set of therapeutic procedures that can be used in this case.
4. Describe the methods of application of physical exercises in childbirth and the postpartum period.
5. Indications and contraindications to the appointment of physical rehabilitation in gynecological practice.
6. Main tasks and features of physical rehabilitation in chronic and inflammatory diseases of the female genital organs. List a set of therapeutic procedures that can be used in this case.
7. Main tasks and features of physical rehabilitation in case of anomalies of the uterus. List a set of therapeutic procedures that can be used in this case.
8. Main tasks and features of physical rehabilitation in disorders of menstrual function. List a set of therapeutic procedures that can be used in this case.
9. Main tasks and features of physical rehabilitation in case of functional urinary incontinence in women. List a set of therapeutic procedures that can be used in this case.

Tests for self-control:

1. Women, 22 years old, pregnant at 28 weeks. The examination revealed pelvic presentation of the embryo. At what stage of pregnancy should be prescribed corrective exercises to transfer the fetus to the main presentation ?

- A. 20-28 weeks.
- B. 9-35 weeks.
- C. 36-40 weeks.
- D. 33-44 weeks.
- E. 17-20 weeks.

2. In the first period of pregnancy (1-16 weeks) gymnastic includes:

- A. Dynamic exercises for the extremities, tonic exercises.
- B. Passive exercises for the extremities, tonic exercises.
- C. Exercises for the extremities, exercises that increase intracranial pressure.
- D. Tonic exercises, exercises for training diaphragmatic breathing.
- E. Corrective exercises, exercises for coordination of movements.

3. Absolute contraindications for gymnastics after cesarean section:

- A. Acute cardiovascular failure, bleeding.
- B. Subfebrile fever, intestinal paresis.
- C. Flatulence, exacerbation of lumbar osteochondrosis.
- D. Acute bronchitis, low-grade fever.
- E. Atony of the bladder, flatulence.

4. Special exercises for women with uterine pubescence will be exercises from the starting position:

- A. "bindweed".
- B. Lying on the back.
- C. Standing.
- D. Sitting.
- E. Lying on the stomach.

5. 23-year-old woman, parturient, is in the maternity hospital, the birth was normal, the postpartum period is normal. In what term after childbirth it is necessary to appoint medical gymnastics?

- A. On the first day
- B. On the second day.
- C. On the third day.
- D. On the fourth day.
- E. On the fifth day.

6. Woman 34 years old, parturient, after a cesarean section is in the hospital. The postoperative period runs without complications. Prescribed therapeutic exercise. On what day after surgery should be prescribed exercises for the muscles of the pelvis and abdomen?

- A. Starting from the second day.
- B. Starting from the third day.
- C. Starting from the fourth day.
- D. Starting from the fifth day.
- E. Starting from the sixth day.

7. The prohibition of training during menstruation is necessary in cases:

- A. Dysmenorrhea.
- B. The need for minimal effort.
- C. Sufficient fitness of the body.
- D. In women of reproductive age.
- E. In adolescents.

8. In the third period of pregnancy (33-34 weeks) gymnastics includes:

- A. Dynamic exercises for the extremities, tonic exercises.
- B. Passive exercises for the extrtemities, tonic exercises.
- C. Exercises that increase intracranial pressure.
- D. General strengthening exercises, exercises for training diaphragmatic breathing.
- E. Exercises to prevent varicose veins and improve blood circulation in the pelvis.

9. Contraindications to therapeutic exercise in inflammatory diseases of the female genital organs:

- A. Salpingoophoritis.
- B. Secondary infertility.
- C. Menstrual disorders.
- D. Acute inflammatory process with increasing temperature and erythrocyte sedimentation rate.
- E. Endometritis.

10. The main tasks of therapeutic physical training in uterine pubescence:

- A. Strengthen the muscles of the pelvis, abdomen, back.
- B. Restore the correct position of the uterus.
- C. Restore the physiological function of the uterine ligaments.
- D. All answers are correct.
- E. There are incorrect answers

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